



Does Size Matter?

by Debbie Savage

A forest made up of the world’s tallest trees can invite a lot of questions. Why do coast redwood trees, *Sequoia sempervirens*, grow only in northern California? Why do they grow so tall? Is there something more significant about this forest than the size of the trees?

The redwood forest attracts visitors from around the world for many reasons; one is its age. Indeed this forest contains descendants of some of the oldest plants on Earth. You can almost imagine a dinosaur crashing through the understory and thundering down the trail. Ferns and horsetails have evolved over 300 million years and once formed forests 50 feet tall.

More than 100 million years ago, ancestors of modern coast redwood trees extended across the northern hemisphere. By the time dinosaurs became extinct 65 million years ago, these redwoods grew as part of a complex forest that included ancestors of modern-day Sequoias, dawn redwood, cedar, fir, hemlock, and a variety of broad-leaved deciduous trees.

Redwoods appeared on the West Coast of North America about 20 million years ago. The Mediterranean climate provides a safe haven for trees that need abundant water, little fluctuation in temperature year round, and summer fog.

Walking in the ancient redwood forest, amongst the world’s tallest trees, you can almost imagine a dinosaur crashing through the understory and thundering down the trail.

Gradually climates changed from warm and humid to cooler and drier around the globe. By three million years ago, coast redwood trees had disappeared from Europe, Asia, Greenland, and Japan. Today the redwood forest only exists on this narrow strip of California coastline, which extends 450 miles from the California/Oregon border south to Monterey Bay.

Coast redwood trees can soar to more than 370 feet tall, but they are not the only tree that grows tall in a redwood forest. Douglas-fir trees have grown even taller; one record-breaker in British Columbia measured 400 feet. Western hemlock trees can reach 250 feet tall. Sitka spruce height rivals the hemlock and its bulk can match a medium-sized redwood.

If size is measured in years, then perhaps it does matter. Resistance to fire, insects, disease, and fungi allow the coast redwood to live more than 20 human lifetimes. Redwood trees seldom fall over. Their shallow roots form an extensive system of intertwining threads that connect with the roots of neighboring trees, providing reinforcement against the powerful winds of winter storms.

Just as impressive as the trees is the multi-layered understory that grows beneath. Ten-foot high rhododendron, azalea, huckleberry, and salmonberry bushes flourish, sword ferns grow as tall as a person, skunk cabbage leaves extend as long as your arm, fungus bigger than

dinner plates emerge with the first winter rains, and 80-foot big-leaf maples turn streambanks into a burst of fall colors.

No wonder the smaller things are easily overlooked. Look below your knees along any forest trail and you will find a carpet of redwood sorrel, plants that resemble three-leaved clover, covering the forest floor. Mixed among them you might find wild ginger, Pacific starflower, or yellow redwood violets. Any time of year you can find something blooming.

Then consider what might be living in the trees themselves. Suspended 300 feet above, soil mats trapped in elbows of limbs form a miniature forest floor that provides habitat for a world of plants and animals, some that never touch the ground. This complex biomass rivals the tropical rainforests and qualifies Redwood National and State Parks as a World Biosphere Reserve.

Does size matter? It depends upon how you measure it. Redwood National and State Parks may be home to the world’s tallest trees, but the challenge is to see the forest, despite the trees.

LOOK for redwood forest indicator species scattered throughout this guide. Indicator species definition: page 5

40th Anniversary stories! Pages 6-9

Redwood National and State Parks
 1111 Second Street
 Crescent City, CA 95531
 www.nps.gov/redw
 www.parks.ca.gov
 TO:



Table of Contents

The New Tall Tree	3
Help Save the Murrelet	3
Save—the-Redwoods League	3
Recycling in the Parks	3
Coast Redwood	4 - 5
This Land is Your Land	4
Life Among the Limbs	4
The Tie That Binds	4
The Living Canoe	5
Looking Forward to the Past	5
Indicator Species	5
40th Anniversary insert	6 - 9
Crossing Into History	6
Scenes of Success!	7-8
The Path Ahead	9
A Home Too Hot?	9
Tolowa Dunes State Park	10
Area Information	10
Smith River NRA	10-11
Patrick's Point SP	11
Humboldt Lagoons SP	11
Backcountry Basics	12
Elk Watching	13
About Cougars & Bears	13
What is Old Growth?	14
Drive Through a Tree?	14
Ranger Specials	15
Hikes, Walks, Drives	15
Area Map	16
What You Need to Know!	16

Redwood National and State Parks Visitor Guide is provided by Redwood Park Association and the North Coast Redwood Interpretive Association in cooperation with Redwood National and State Parks 2008.

Editor/Designer: Lynne Mager
Articles by Redwood National and State Parks staff
Project Coordinators: Lynne Mager, Rick Nolan
Printed on recycled paper with soy-based inks.



Visitor Activities

Come join Redwood National and State Parks staff in activities that are both fun and educational for the whole family. For schedules, times, topics, and locations of all programs listed below, check at the visitor centers or on campground bulletin boards. The campfire circles at Jedediah Smith, Mill Creek, and Elk Prairie campgrounds are wheelchair accessible.

ACTIVITIES: JUNE 1 – SEPTEMBER 3

Campfire Programs – Here's your chance! Learn more about a redwood-related topic. Varied activities may include narrated slides, music, games, or storytelling. People of all ages can enjoy these programs given at:

- Jedediah Smith Redwoods State Park campground
- Mill Creek campground in Del Norte Coast Redwoods State Park
- Elk Prairie campground in Prairie Creek Redwoods State Park

Nature Walks and Talks – Be a part of the forest, sea, or prairielands. Join a ranger to learn more about the natural communities in one of the most diverse areas of the world. Offered at various locations and times throughout the parks.

California State Park Junior Ranger Programs – Children ages 7 to 12 are encouraged to participate in a fun and educational activity. Topics focus on the people, plants, animals, and life systems of the redwood region. Offered at Jedediah Smith, Prairie Creek, and Del Norte Coast Redwoods State Parks.

Redwood National and State Parks Junior Ranger Program – Come to one of the five visitor centers to pick up a Redwood Junior Ranger activity newspaper. If you have a few days to spend in the parks, children ages 7 to 9 can complete four activities and children ages 10 to 12 can complete six activities to earn a patch. If you have one day or less, children ages 7 to 12 can complete three activities to earn a sticker. All ages are welcome to complete a junior ranger activity newspaper!

Tidepool Walk – Discover the wonders of the sea! All tidepool walks meet at the Enderts Beach parking area near Crescent Beach Overlook south of Crescent City. The walk takes about 2-1/2 hours, tides permitting. For your safety, please wear shoes that have nonslip soles and can get wet.

Come prepared to ranger-led walks — Carry water and snacks. Wear shoes that can grip the slippery rain forest floor. Lock all valuables in the trunk of your vehicle. Keep your wallet with you.

SPECIAL EVENTS

SUMMER – Redwood Ecology Field Seminars. Travel through old-growth forest and second-growth redwoods. Learn about the parks' program to restore the old-growth coast redwood forest. June/July/August/September. For more information, contact North Coast Redwood Interpretive Association (707) 458-3496.

JULY – Eco Fun Fest: a family event! This day-long festival includes arts, crafts, information booths, and live music at Prairie Creek Redwoods State Park. Call (707) 465-7354 or 465-7345 for more details.

AUGUST – Redwood Field Seminars offers star gazing. Contact Redwood Park Association at (707) 465-7325.

OCTOBER – Discovery Ride through the Ancient Forest. Enjoy the parks on bicycle for easy 10-mile and challenging 28-mile rides in Prairie Creek Redwoods State Park. Contact North Coast Redwood Interpretive Association at (707) 465-7354.

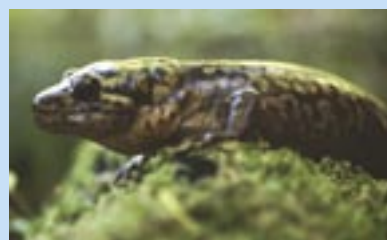
OCTOBER – Bat Walk. Join us for a walk at night in Jedediah Smith Redwoods State Park. Contact North Coast Redwood Interpretive Association (707) 458-3496.

DECEMBER – Candlelight Walk through the Ancient Forest. Experience the redwoods by candlelight in Prairie Creek Redwoods State Park. Short walk and program are free to the public. Contact North Coast Redwood Interpretive Association (707) 465-7354.

DID YOU KNOW?

The Pacific giant salamander (*Dicamptodon tenebrosus*) is the only salamander with a voice and will actually bark when agitated. Pacific giant salamanders provide an important link in the food chain between aquatic and terrestrial animals.

LOOK for the definition of an indicator species on page 5.



WELCOME

The year was 1968. A drawn out battle had played out in Congress, culminating in a bill establishing Redwood National Park. This Act—memorialized by a ceremony among the towering sentinels of the Lady Bird Johnson Grove and attended by three United States presidents—was a watershed event.

Over the next 40 years, there were more struggles over what redwoods to save and how best to protect them. With the development of highly efficient logging equipment able to handle mammoth-sized redwood timber, the difference of opinions concerning utilization and preservation came into intense conflict. Since that time, we have seen the enactment of legislation expanding Redwood National Park in 1978, the formation of a partnership between the national and state parks, and the development of numerous state, federal, and local policies that help ensure the protection, recovery, and environmentally-sound management of the remaining redwood forests.

These same forests now face a problem of much greater proportion. The Earth's climate is changing, possibly more rapidly than redwood forests can naturally adapt. While we have a long way to go to fully understand cause and effect, we feel it is appropriate for the national parks to be at the forefront in reducing or solving this imminent problem. With that in mind, we have taken on the challenge to be more climate friendly: to reduce the carbon footprint created by how we go about our business. When we celebrate Redwood's 80-year anniversary, hopefully we will be able to again say that the redwoods played a significant role in resolving a difficult problem.

We hope you enjoy your visit, and thank you for allowing us to care for your national and state parks.

Bruce Lynn
State Park Superintendent

Steve Chaney
National Park Superintendent

Help Save the Marbled Murrelet!



On the Edge of Extinction

by Jeff Denny

Sheltered in a soft nest of moss and ferns, a marbled murrelet chick waits silently atop a massive redwood branch high above the forest floor. Its parents spend their day at sea, diving for small fish, returning at dusk to feed their solitary offspring. Like the fog that shrouds the forest, a murrelet's life is connected to both forest and sea.

Nearby, a Steller's jay hops along the forest floor scavenging for any morsel of food. Aggressive and incredibly intelligent — they can remember hundreds of different food locations — jays and their fellow corvids (ravens and crows) flourish at the ecologically-rich edges of the redwood forest.

The edges of this once unbroken forest have increased a hundred-fold in a hundred years. Highways, logging, cities, campgrounds, and picnic areas open broad boulevards into the heart of the redwood forest. Thus exposed, murrelet chicks and eggs make easy meals for crafty corvids. As the forest edge expands, the marbled murrelet lives today on the edge of extinction.

You can help! Please keep campsites, picnic areas, and trails free of food. Leave no crumb behind! Together, we can ensure a place in the wild for a rare bird.

The New Tall Tree

Area loggers' talk of "great timber" first led National Geographic Society naturalist Paul Zahl to Redwood Creek in 1963. On one particular trip, Zahl stopped on the cut-over ridge across from what would become known as the Tall Trees Grove to take some pictures. "While catching my breath, I scanned the treetops before me — then suddenly started. One particular redwood rose above the others like a giant candle. I had already measured its companions — all of them about 320 feet tall . . ."

The Tall Tree of Redwood Creek was measured at 367.8 feet and proclaimed the world's tallest tree in July 1964. As the torch of the environmental movement in the 1960s, it helped establish Redwood National Park in 1968.

In 1989, the top broke off of the Tall Tree during a winter storm, making it just another tree in the ancient forest. Since then, the title of the world's tallest tree has changed often, moving from Montgomery Woods State Reserve to Humboldt Redwoods State Park. Many questioned where and when the next tallest tree would emerge.

In the summer of 2006, another tallest tree materialized in Redwood National and State Parks. It towers above all other trees at 379 feet. Many previous contenders grew along nutrient-rich alluvial flats (river bars and flood plains). Not this candidate. It grows on a steep mountainside deep in the backcountry of the parks.

The forest is dynamic, so the world's tallest tree designation will continue to change. The immense coast redwood forest absorbs individual trees. For all we know, yet another tree stands out there rising above the others like a giant candle waiting to be seen.

SAVE-THE-REDWOODS LEAGUE

The road was dusty and the trip was long back in 1915 when three men traveled from San Francisco to see for themselves the towering trees and the impending effect of the ax. So impressed were Dr. John C. Merriam, Professor Henry F. Osborn, and Dr. Madison Grant that they immediately sought means to preserve redwood groves for future generations.

In 1918 they established the Save-the-Redwoods League and since then the non-profit organization has set aside more than 170,000 acres of redwoods. Through public donations and matching funds from the State of California, the League purchases stands of redwoods and helps to raise worldwide awareness of redwoods.

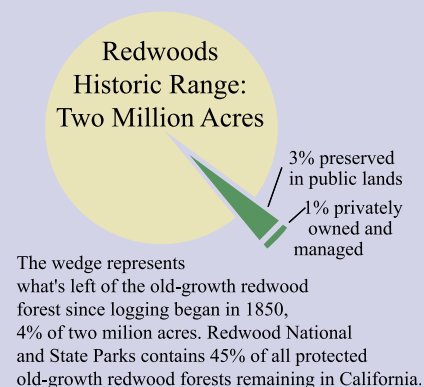


Portions of Redwood National and State Parks comprise land donated by the League. The brown and gold signs seen along trails and roadways

represent the Memorial Grove Program, started in 1921. More than 950 groves, named for individuals and organizations, have been set up, with more being added each year. They are instrumental in saving redwoods.

The Save-the-Redwoods League has more than 20,000 members from all over the world. If you would like more information about the League, you can contact them at 114 Sansome Street, Room 605, San Francisco, California, 94104, (415) 362-2352. The website address is www.savetheredwoods.org. Celebrating their 90th anniversary.

What's Left of the Redwoods?



RECYCLING IN THE PARKS

Look for these two symbols for recycle and trash collection throughout the parks. You can also recycle newspapers in the campgrounds. Talk to a ranger or a camp host.

RECYCLE

Aluminum
Plastic
Glass
Tin



ONLY

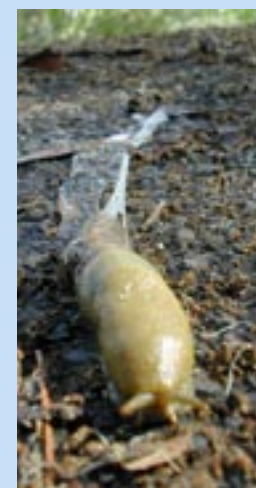
TRASH



ONLY

DID YOU KNOW?

Slowly oozing along the forest floor, a banana slug (*Ariolimax columbianus*) chews up leaves, animal droppings, and dead plant material, which it later recycles into soil. Besides their good work as decomposers, slugs further benefit the forest by spreading seeds and spores through their waste. Banana slugs eat everything but redwood seedlings and seeds! Truly evolutionary!





This Land Is Your Land

*This land is your land.
This land is my land.
From California to the New York Island,
From the redwood forest
to the Gulf Stream waters,
This land was made for you and me.*

by Jeff Denny

Upon the arrival of settlers to California in the 1850s, the redwood forests soared to an exalted place in the American consciousness. Rising high at the western edge of a once-boundless continent, the redwoods became a towering exclamation point on a national narrative of sweeping landscapes and natural wonders. Is it any wonder Woody Guthrie so easily recalled these magnificent forests in his timeless anthem?

If you create a postcard collage of places uniquely American, a few images quickly come to mind. The Grand Canyon. Yosemite's Half-Dome. The ancient villages of Mesa Verde. The Statue of Liberty. The Lincoln Memorial. The Rockies' purple mountain majesty. The redwoods.

It's no coincidence that these icons are gathered together within our national parks. A truly American invention, our national parks safeguard these treasures alongside nearly 400 equally significant places. From California to the Gulf Stream waters, past ribbons of highways and golden valleys, each park, monument, battlefield, and seashore contains a verse in the shared song of America.

Yet, our national parks and our national stories are not frozen in time. Each one adds new verses and different interpretations to our common story every day. Last year, researchers discovered redwoods taller than any previously imagined. Tiny microbes from the deepest pools of Carlsbad's caverns have been found to attack breast cancer cells without harming their healthy neighbors. Wolves, reintroduced for the first time in nearly a century, spawned a rebirth



Illustration by Larry Eifert

COAST REDWOOD

Baryonx trod amidst the redwoods 140 million years ago. The tallest trees in the world preceded bats, whales, and the woolly mammoth. As you walk among the ancient ones today, think about their 2,000-year-old timeline: The first form of compass appears in 271 A.D., scrolls replace books starting in 360, Copernicus

Life Among the Limbs

By Laura M. Sturtz

Visitors walking through the redwood forest often feel like children in a room full of adults: all we can see are legs. Lift your gaze from the base of the trees and crane your head back. Observe the massive, high branches of the tallest living things on the planet. There, catch a glimpse of an unseen world flourishing over 300 feet above the forest floor.

Until recently, the secrets of the redwood forest canopy could only be viewed from below. We could look at fallen giants — their mighty limbs shattered — and see evidence of life in the treetops. Acting like archeologists, we tried to piece together an ancient civilization from the ruins. Yet, no one really knew what occurred high in those mighty boughs.



Salamanders have plenty of water, food, and protection to live in this bouquet of leather ferns for their entire lives.

Photo by Thomas Dunklin

Today researchers have gained access to the heights by shooting rubber-tipped arrows, dragging ropes into the crown, and anchoring the ropes over strong limbs. Climbing up the trees, they observe the creatures that dwell in the canopy. In fact, researchers have discovered an entire forest ecosystem growing in the sky. At 200 to 350 feet up, soil forms on limbs as big as six-feet in diameter. In the crooks of massive trees, leather fern grows

in thick mats that can weigh up to a thousand pounds. Huckleberry bushes, Sitka spruce, even other redwoods take advantage and thrive in the moist treetops.

Many birds, mammals, and amphibians flourish in the treetop vegetation. Wandering salamanders, rarely found on the ground, occur by the thousands high above. Other canopy residents like red squirrels and Townsends chipmunks can be found on the ground but find everything they need in the redwood high-rises.

While we cannot hike through the giant limbs of the tallest trees on Earth, we can imagine this hidden world that scrapes the sky. During your visit to Redwood National and State Parks, pull out along the Howland Hill Road or Newton B. Drury Scenic Parkway, or hike through Stout Grove or Lady Bird Johnson Grove. Lift your eyes from the towering trunks, look up into the loftiest limbs, and wonder what treetop creatures might be gazing down from their world.

The Ties That Bind

By Debbie Savage

The first thing I noticed when I moved to coastal California is the rain — up to 100 inches a year. I soon learned that the rain transforms every level of the forest into a colorful array of fungi in all sizes, shapes, and textures, revealing a hidden world with names like *fly agaric*, *witch's butter*, and *turkey tail*. Intrigued, I observed a trail of fungus from the forest floor to the canopy, searching for a connection.

By maintaining a cool, moist environment, the canopy provides ideal habitat for over 300 species of fungus. Fungus is a collection of filaments or threads that may extend for several miles beneath the surface. These threads (hyphae) produce two types of fruiting bodies, mushrooms aboveground and truffles underground. Most fungi obtain nutrients by breaking down leaves, cones, and other forest litter constantly shed from the canopy.

Some fungi infect young tree roots to form a beneficial structure called mycorrhizae (from the Latin mycor for fungus, rhiza for root). By growing into the roots and extending out into the soil, mycorrhizae increase the tree's ability to absorb water and elements such as phosphorus, zinc, manganese, and copper. These filaments also produce antibiotics to protect the roots from disease. In exchange, the fungi receive sugars from the tree's root system.

Many forest animals rely on fungi in their diet. Chipmunks on the ground and flying squirrels in the canopy dig for truffles. Roosevelt elk, black bears, banana slugs, and millipedes graze on mushrooms. In turn, these animals disperse fungus spores in their fecal pellets, and new fungi grow from the spores. The more I learned, the more I realized that fungi threads bind the old-growth forest community together. It is the thread that connects the canopy to the soil and forms a vast underground transportation system for water and nutrients. Follow that thread the next time you visit and see where it takes you.



turkey tails (*Polyporus versicolor*)

states that the Earth turns around the Sun in 1512, and Neil Armstrong walks on the moon in 1969. In human terms, redwoods are timeless.

Within a quilt of habitats, these redwood parks house several animals known as indicator species. As critters found in specific living spaces, they indicate a healthy environment. When they disappear, there's trouble in paradise. Read about them throughout the guide.



CHINOOK SALMON

(*Oncorhynchus tshawytscha*)

"Spawn 'til you die" means just once for the fish more commonly known as king, largest of the Pacific salmon. "Hatch, grow, and go" dictates its first six months in freshwater, then it's off to sea for up to five years, returning with one single-minded purpose: to mate and produce offspring. It's good to be the king.

THE LIVING CANOE

"The redwood tree (keehl) is sacred to us. They say redwood tree has a heart."

Yurok elder and master canoe carver Glenn Moore Sr.

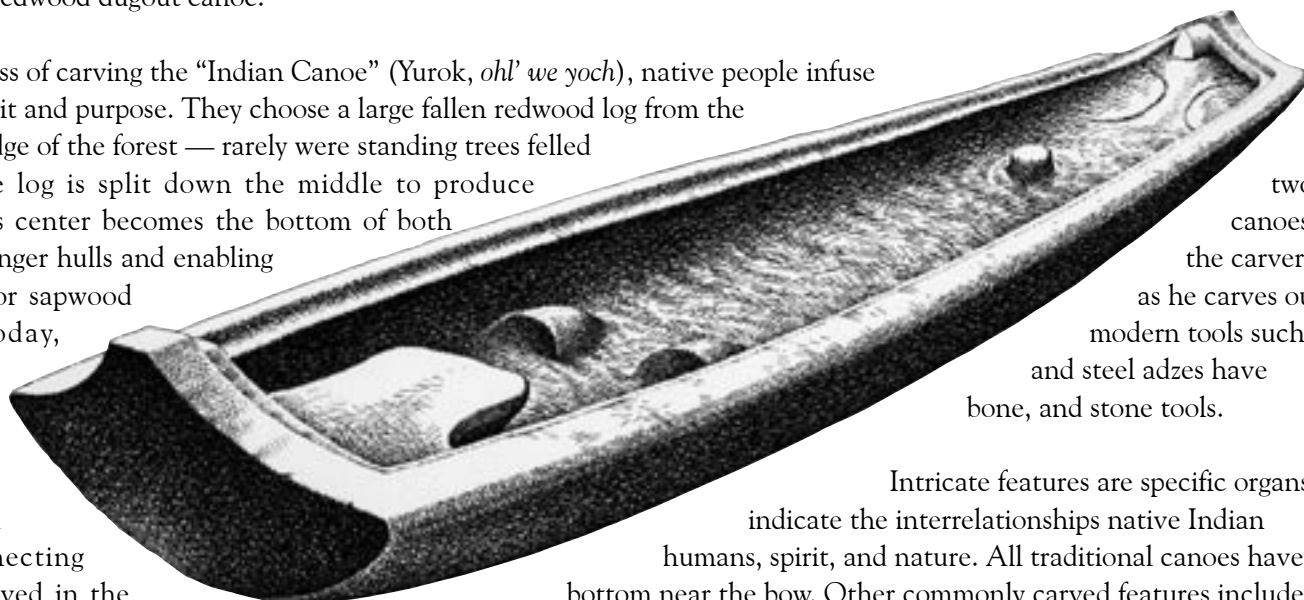
by Jim Wheeler

For native Indian people, redwood trees are sacred providers for all aspects of life. Traditionally, they used elk antler wedges and stone mauls to split thick, board-like planks from redwood logs. Planks are used to build family homes, purifying sweathouses, and Brush Dance grounds. While redwood supplies various utensils, the most prized tool remains the redwood dugout canoe.

In the process of carving the "Indian Canoe" (Yurok, *ohl' we yoch*), native people infuse the craft with spirit and purpose. They choose a large fallen redwood log from the beach or at the edge of the forest — rarely were standing trees felled in the past. The log is split down the middle to produce canoes. The log's center becomes the bottom of both providing for stronger hulls and enabling to remove inferior sapwood each canoe. Today, as chainsaws replaced antler,

of the body and people see connecting a heart knob carved in the eyes, nose, lungs, lifeline, kidneys,

These sturdy, beautiful boats provided the main means of travel up and down the Klamath and Smith Rivers, and the ability to haul freight on both the rivers and the coast. The art of carving redwood canoes is still taught. You can see canoes used annually during the Boat Dances on the Klamath and Trinity Rivers. For both Yurok and Tolowa, redwood is a living entity whose life and spirit are embodied in the hearth of home and sweathouse, and the heart of the canoe.



two canoes, the carver as he carves out modern tools such as bone, and steel adzes have

Intricate features are specific organs indicate the interrelationships native Indian humans, spirit, and nature. All traditional canoes have bottom near the bow. Other commonly carved features include and a seat at the stern.

Looking Forward to the Past

by Jim Wheeler

Walk into an ancient redwood forest and the variety of plant life you encounter at many different levels may look like the "chaos of nature." This visual chaos belies an underlying order and stability that is hard for us to perceive in our short lifetimes.

The advent of logging in the 1850s and the suppression of fire after 1900 devastated the redwood forest. Today, with only four percent of the ancient forest remaining, these parks contain close to one-half of all protected primeval redwood forest. Yet more than half of the park acres — over 75,000 — are comprised of logged or second-growth forest. Now, where a naturally chaotic stability once reigned, young, even-aged trees compete for a piece of the sky in conditions so crowded that they choke out nearly all other plants below their canopy. Can we restore the natural chaos?

Visitors who venture into the second-growth forest along Redwood Creek or Mill Creek will discover

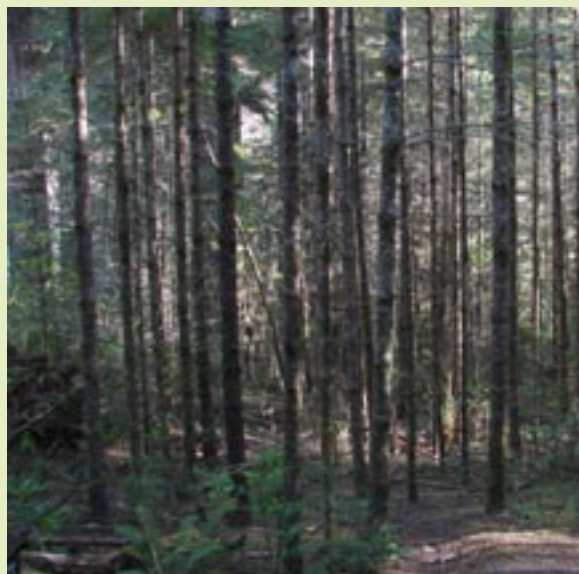
stands that have more than a thousand small, unhealthy conifer trees per acre. The forest floor is barren, shaded by the dark, closed canopy.

Like a gardener, park managers must consider thinning the forest to encourage forest health and biodiversity.

Thinning second-growth stands will take many decades off the centuries needed to redevelop ancient forest qualities. In order to grow big trees, many young firs (planted for timber production prior to park establishment) will be cut, and a natural mix of redwood, Douglas-fir, Sitka spruce, grand fir, and western hemlock trees will return. By reducing tree density, the remaining trees grow vigorously. With more space and sunlight reaching the forest floor, essential understory plants and trees will grow and animals can return. With different sizes and ages of trees, we can look forward to the park forests

supporting diverse wildlife species, as they did in the recent past.

Humans created unnatural order in the forest. Now we must manage the forest to restore the chaos, to restore stability, to restore the ancient redwood forest.



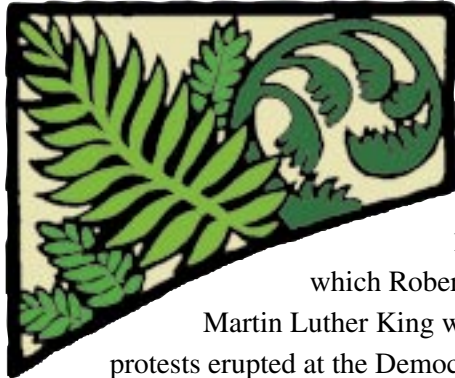
Second Growth: The uniform leaf canopy blocks sunlight, creating a dark, tedious landscape with little variation or diversity of plant and animal life.

of beaver ponds and aspen groves along Yellowstone's rivers. Our historic places reveal the quiet lives of people like you and me, tucked away in fading memories and dusty archives.

In 2016, we will commemorate the 100th anniversary of the National Park Service. Between today and then, our national parks (and our state parks) face many challenges: increasing budget pressures; human development around park sites; a rapidly growing and mobile population; and a high-speed electronic culture with less time to experience the glory of America's landscape.

What places will stand as icons for the next generation of Americans? What stories will speak to the common American experience of our children and grandchildren? What will we be able to say about the value of parks to those who will protect them into the future? Our national parks can retain that communal vision of America, in its landscapes and in its stories, if we continue to remember that collectively, "This land was made for you and me."

(Song lyrics by Woodie Guthrie. Used with permission by publisher: Ludlow Music, Inc. NY, NY.)



Much has been written about the watershed year of

1968, a year in

which Robert Kennedy and Martin Luther King were assassinated,

protests erupted at the Democratic National

Convention, race riots ravaged American cities, and

farm workers struck in California's grape fields.

America crossed an historic threshold in 1968, erasing decades-old cultural and political boundaries and creating new visions for its future.

A global environmental movement also came of age in the 1960s. The publication of Rachel Carson's *Silent Spring* made us painfully aware of the impact humans have on the world and its finite, dwindling resources. Northern California's coast redwood forests exemplified the precarious balance in which we live with our natural world.

Nineteenth century immigrants crossed watersheds of their own when they traversed the Sierras or sailed through San Francisco's Golden Gate. They gazed skyward in wonder at trees taller than any they had ever known. In those lofty heights some saw opportunity, others saw timelessness. Those opposing views have shaped the debate on redwood forests for more than a century.

It was private individuals that took the first meaningful steps to protect California's mighty redwoods. In 1902, the Sempervirens Club (so-called for the trees' scientific name that means "forever living") purchased 3,800 acres near Santa Cruz, creating California Redwood Park (now Big Basin Redwoods State Park). Six years later, William Kent, a prosperous California businessman, purchased and donated 600 acres of old-growth redwoods in Marin County to the federal government establishing Muir Woods National Monument.

In 1918, another group of concerned individuals established the Save-The-Redwoods League (SRL). Raising millions of dollars in private donations and coaxing significant donations from timber companies, SRL acquired the ancient redwood groves protected today within Prairie Creek, Del Norte Coast, and Jedediah Smith Redwoods State Parks.

In 1968, Lady Bird Johnson visited the new park for its dedication and remarked, "This ceremony is the crowning moment of a crusade which has lasted two generations."



Stephen Mather, director of the newly established National Park Service and a founding member of the Save-the-Redwoods League, drove the full length of the Redwood Highway in 1919. He met with community leaders up and down the redwood region to find a suitable location for a large national park. While many supported the idea of a Redwood National Park in principal, none could agree on its location, nor could they agree on its size. In the end, no precedent existed for the federal government to purchase private lands for parks. It took another 40 years before the idea of a Redwood National Park would be seriously considered.

Crossing Into History

By Jeff Denny



Of the land acquired, much lay along the newly established Redwood Highway, seen here at Big Tree Wayside. A new class of motoring tourists could access the impressive ancient redwood groves. Many private tours, conducted by such organizations as the Save-the-Redwoods League, would inspire to preserve these redwood ambassadors.

In 1963, the world's tallest known tree was discovered in a grove of massive redwoods on a bend of Redwood Creek in northern Humboldt County. News of this discovery captivated the public, along with word that the tallest living thing in nature stood unprotected only a short distance from buzzing chain saws and growling bulldozers.

Citizens and environmental groups clamored for the immediate protection of rapidly disappearing old-growth forests. Controversy erupted over the federal government's ability to take private land for parks, the economic impacts of removing land from timber production, the loss of industry jobs, and of the need to create a large national park where several smaller state parks already existed.

While the debate raged in communities and the halls of Congress, ancient redwoods continued to fall. Logging accelerated in areas under consideration for park status when timber companies realized they had limited time left to garner profits for those areas. It took a 1967 congressional moratorium to halt the logging.

By the late 1960s, however, a fundamental shift had occurred in the public's mind about preserving our last great places. The discussion was no longer about whether but when and where a Redwood National Park would be created.

In late 1968, after four years of legislative proposals and counter-proposals, Congress established a small Redwood National Park in northern California. The nation's newest national park protected only a narrow band of old-growth redwoods along Redwood Creek, including the Tall Trees Grove, and incorporated within its boundaries three of the earliest California State Parks.

Old-growth redwood forests stood on the cusp of an historic watershed event in 1968. Too small to be effectively managed, 48,000 acres were added to the park in 1978 to protect what remained of these age-old forests. Today this small remnant of a once-boundless forest ecosystem has stepped over that threshold, venturing into a new era where we can create its future by restoring its past.

Lyndon B. Johnson - 1968

I believe this act establishing the Redwood National Park in California will stand for all time as a monument to the wisdom of our generation. It is a great victory for every American in every State because we have rescued a magnificent and a meaningful treasure from the chain saw. For once we have spared what is enduring and ennobling from the hungry and hasty and selfish act of destruction.

Scenes of Success! 1968-2008

By Lynne Mager



Watershed Restoration



The web of "skid" roads provided access to individual trees. Once a tree was cut down, a bulldozer dragged (skidded) the log to the nearest landing on a haul road (visible at the top and bottom of this photo).



Emerald Creek six years later. A logging road over Emerald Creek made the stream susceptible to landslides during strong winter rain storms. Excavators pulled out dirt and fill and reshaped the land for natural streamflow.

Across the country, people are experiencing the devastating effects of extreme weather conditions. From mud slides in California to tornadoes in Oklahoma, homes have been splintered and leveled — similar to what happened to the redwood forest during logging. Redwood National Park tackled landscape devastation in 1978 with a landmark watershed restoration program. Congress challenged resource managers to find a way to heal steep slopes manipulated into logging roads and to remove sediments from Redwood Creek. Today more than half of the roads (215 miles) have been removed from the watershed, giving hope to all aquatic life. We can emerge from the rubble — and rebuild and restore.

Habitat Restoration

At Redwood National and State Parks we build bridges to restore stream habitat. County, federal, state, and private people come together to fund and overhaul places where salmon once lived. Workers rip out decaying culverts plugged with vegetation and use the debris to sculpt the streambanks. Juvenile (fry) salmon need pools to forage for food and to hide from predators so large logs are hauled into the stream. Today you can stand over pristine waters and hope to see shiny silver tails of salmon struggling up their natal stream. The ancient world of salmon spawning has been bridged.

Note: Stream restoration can also be seen now on the North Fork of Streelow Creek and in the near future on Lost Man Creek.



Cedar Creek on Howland Hill Road. Top: The failing culvert. Below: The new bridge. Photos by Thomas Dunklin.

To the Parks and Beyond - Environmental Education!

by Lynda Mealue

What will Redwood National and State Parks (RNSP) look like in 2050? One thing we know for sure: the parks will be in the hands of our children and their children. In Richard Louv's book *Last Child in the Woods*, he refers to the child in nature as being "...an endangered indicator species." Indicator species are critters found in specific living spaces and their presence indicates a healthy environment. RNSP will bring more children into nature by supporting the "no child left inside initiative." In fact since the 1970s, RNSP has been partnering with parents and teachers to bring all local school-age children to two outdoor schools that offer a variety of standards-based educational programs. Our mission today and beyond is to encourage stewardship by connecting the children directly with the parks' trees, streams, seashores, and prairies, and with the creatures and plants that live there. Our hope is that each child forges a lifelong bond with the natural habitats that they will be in charge of in the future.



Prescribed Fire

With fire licking along the exterior of your home, fear is the natural reaction. Why then, would park personnel threaten the finite redwood forests by burning the land that surrounds it? Fire has been used across the redwood landscape for centuries. American Indians regularly burned prairies here to stimulate the growth of nuts and berries that provided food as well as materials for basket making. The National Park Service maintains these cultural landscapes by drip torching certain prairies every few years to keep Douglas-firs from moving in. With expert planning and vigilant observation, staff also ignites fire in leaf and branch litter under old-growth trees to keep wildfires out of the redwood forest home.



Scenes of Success! 1968-2008

By Carey Wells

Elk Meadow

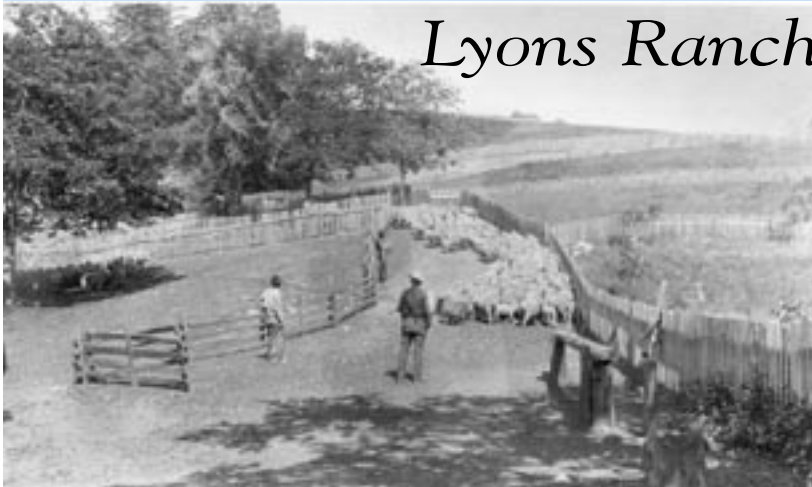


Post war logging in northern California brought with it sprawling mills and log decks. One such mill sat where Elk Meadow Day Use Area exists today. Clearing acres of land to pour asphalt ravaged this wetland area. In 1996, Redwood National and State Parks began restoring the site by recontouring the land and planting native vegetation. By 2000, succulent grasses and willows had returned and with them Roosevelt elk, fish, and migratory birds.



Day Use Area

Lyons Ranch Barn



Wherever we go, a footprint is left behind. No two footprints look the same: some are in the shape of a pasture and others are buildings. Redwood National and State Parks preserve these footprints, from the Bald Hills barns of the Lyons' family sheep ranches to the World War II radar station along Coastal Drive. Actively restoring and maintaining these historic structures allows us to walk among the footprints of those who came before us.

Exotic Vegetation Management

Over the past century, people brought to America new plants, animals, and ways of tending the land. With them came countless non-native plants, some of which have aggressively spread throughout the redwood region, crowding out native species. For example, some beaches have been stabilized by huge hummocks of European beachgrass. Rather, native grasses and tender flowers such as sand verbena should speckle the vast sandy beaches, allowing the dunes to roll and change in the winds. By controlling the spread of the most aggressive invasive species, the parks hope to bring ecological balance back to this amazing landscape.

Here's a list of creepy crawlers that we need to get a handle on: cotoneaster, crocosmia, English holly, and English

European beachgrass



ivy (in old growth), butterfly plant and herb robert (anywhere), sweet fennel and three-corner leek (on trails). Call, write, report sightings to a ranger. Thanks!

Two Agencies: One Mission

Is this a National or State Park?

By Adam Friedrich

It's both! In May of 1994 Redwood National Park and the California Department of Parks and Recreation (CDPR) agreed to cooperatively manage their cumulative redwood forests. Today those lands total roughly 132,000 acres, which includes close to half of the world's remaining old-growth coast redwoods. Both park systems have a long history of working together that dates back to California's first state park, Yosemite in 1864. Yosemite became a national park in 1906, but was briefly managed by both the state and federal governments. California state park rangers proudly wear a badge memorializing Yosemite as their first state park. Today both park systems share a common goal in protecting the parks' cultural and natural resources and providing enjoyment and education for the public and future generations. As you visit the redwoods, don't be surprised if you see a national park ranger at an evening program in a state park campground or run into a California state park ranger working in a national park visitor center.

The CDPR manages more than 270 parks and 1.4 million acres while the National Park Service administers 391 areas and 84 million acres for you to enjoy.

THE PATH AHEAD: 2008-2048

By Lynne Mager and James Wheeler

MURKY WATERS

No one fully understood that protecting human homes and pastureland from flooding along Redwood Creek would greatly diminish another home, the Redwood Creek estuary, the place where fish mature before heading to sea, seals raise their pups, and a multitude of birds stop on their annual migrations.

In 1968, the Army Corps of Engineers completed levees to harness the creek, funneling it straight to the ocean. As a result, young salmon are ushered directly into the sea rather than growing up in the estuary. Today restoration of this wildlife home has become a park priority.

Sediments from failed logging roads in the upper watershed have crept into the estuary over the last forty years,

making clean oxygenated water murky and degrading salmon habitat. Park crews have removed more than half of those inherited roads in the past thirty years. Yet, even if all of the failing logging roads were removed today, it would be of little benefit to the stream ecosystem without a restored estuary.

Most of the logging roads in RNSP will be removed by 2048. Park staff and partners will work to restore historic flow patterns in the estuary while preserving flood control and adjacent agricultural land uses. Through maintenance of existing roads, erosion in the watershed will be minimized — providing better spawning habitat for fish, stabilization of the streambanks, and protection of redwoods on lower Redwood Creek. Protecting everyone's home is important: partners and neighbors, civilized and wild.

Traditionally, juvenile Chinook salmon have come to the estuary for its abundant food and stayed the summer months before heading out to sea. Since construction of the levees, the natural oxbow that scoured the estuary has become isolated from the rest of the river channel, causing the estuary to fill with sand and gravel and degrading salmon habitat.



ANCESTRAL CUSTOMS TODAY

Can you imagine watching a Yurok or Tolowa woman collecting young hazel shoots to make her baskets? What does a semi-subterranean redwood plank home look like? Did you know that numerous obsidian artifacts have been found close to one riverbank? From the Smith River to the Bald Hills, the ancestral homes of the Yurok, Tolowa, and Chilula people give RNSP a rich cultural background and a continuing presence.

The future may find us returning to the past. First park staff needs to gather ethnographic information from tribal members who have families associated with parklands. Then, in conjunction with the parks' prescribed fire program, this may lead to traditional gathering of native plant materials such as hazel branches.

An archaeological site along the Smith River within Jedediah Smith Redwoods State Park revealed nine semi-subterranean structures! From previous research, we knew that American Indians lived on the coast for up to 1,500 years. With newly unearthed artifacts such as obsidian from the Smith River, hydration dating has revealed that native inhabitants existed here for 5,000 years or more.



Basketweaving with young hazel shoots.

Balancing protection of cultural resources with recreational opportunities can be challenging. While the park has removed some campsites to protect cultural sites, alternative campsites will most likely be constructed to ensure continued camping options. In the future, ethnographic and archaeological investigations may lead to the re-creation of traditional fish camps or village sites for cultural and interpretive practices.

THINNING TREES FOR THE FOREST?

Dense, second-growth forests often make you feel like you're standing in a shaded field of corn. So, how do we restore over 75,000 acres of young, even-aged, unhealthy second-growth forest back into an ancient forest? To find out more about the future of the forest, turn to page 5 and read *Looking Forward to the Past*.

A Home Too Hot?

By Debbie Savage

Before the last ice age, the redwood forest stretched across North America. Gradual climate change reduced the redwood's range to this narrow strip along the California coastline (see cover story) and explains why the coast redwood now exists in only one place in the world.

Today scientists agree that the Earth's climate is changing at an unprecedented pace. Evidence has been gathered from Greenland and Antarctica ice cores, where information about atmospheric conditions is preserved for up to 650,000 years ago. In this century, continuous studies of the Earth's atmosphere began in the late 1950s with the use of land, air, and ocean sensors. Results show that the temperature has increased more than a degree Fahrenheit (0.56 degrees Celsius) since then. As of 2006, eleven of the previous twelve years blossomed warmer than any other since 1850. The Intergovernmental

Panel on Climate Change (IPCC) and the American Geophysical Union predict as much as a four or five degree Fahrenheit rise in global temperature over the next century.

These studies also document a corresponding rise in atmospheric gases, particularly methane and carbon dioxide. IPCC's 2007 report states that "there is a greater than 90 percent chance that the global warming seen in the last 50 years is the result of human activity," primarily through the burning of oil and gas and various agricultural practices. While carbon dioxide, water vapor, and methane trap heat from the Sun and make life on Earth possible, too much of these greenhouse gases can also make life unbearable.

For California, this means that the summers will be hotter and drier, wildfires will increase and droughts will get worse, rains will come more as severe downpours, and snow packs

will melt earlier or not form at all. Insects and exotic plants will proliferate. Warmer oceans cannot absorb as much CO₂ from the atmosphere, and ocean currents will be disrupted. Ocean levels will rise because of melting glaciers and storm surges will be more severe.

For the redwood forest, warming atmospheres will threaten the survival of the forest through reduction of fog (an essential summer source of water), unpredictable winter rains (temperate forests need rain to survive; too much rain floods roots and topples trees), and increased vulnerability to fires and insect infestation (historically, redwood bark has not been susceptible to fire or insects).

Is this change inevitable or is there something we can do? Each of us has a role to play, because doing just one thing will make a difference! After all, we only have one Earth and one redwood forest.

ARRANGE FOR CHANGE:

Replace Three light bulbs with compact fluorescents. Save 300 pounds (#) of carbon dioxide (CO₂) per year.
Check Your Tires monthly for proper inflation. Save 250# of CO₂ per year.
Use Cloth Bags at the grocery store to reduce waste and save energy.
Turn off Power Strips. Computers and appliances consume energy even when turned off.
Use Cold Water to wash clothes. 90% of the energy used is for heating the water. Save hundred of pounds of CO₂.
Ride Your Bike to work and create no carbon dioxide emissions. Increase your energy with exercise!
Turn Down the Heat, put on a sweater, and save hundreds of pounds of carbon.
Use Less Packaging and reduce your garbage by at least 10 percent. Save 1,200 pounds of CO₂ per year.
Recycle More paper, plastic, and glass. Buy products made from recycled materials. Save 1,000# of CO₂ per year.
Buy Organic to eliminate chemicals used in modern agriculture. Chemicals destroy soils and pollute the water.
Buy Locally to reduce transportation and energy costs.

For 2,000 years, the Tolowa people lived in villages amongst the dunes surrounding Lake Earl and relied on the abundant fish, waterfowl, and wildlife supported by the various habitats. The diverse natural resources attracted fur traders, miners, and eventually settlers to the area.

Dense, old-growth stands of spruce, redwood, and Douglas-fir that once blanketed this area fell with the advance of settlers, loggers, and miners. Lake Earl was used to transport redwood logs to the mill that existed on its shores. Misnamed as a lake, it is actually a coastal lagoon with a mix of fresh and salt water. A naturally fluctuating lagoon periodically opens to the sea before being closed off again by a sandbar. Developers dreamed of its potential as a freshwater port and experimented with mechanical devices to control the level of water. During the first half of the 20th century, ranchers and farmers routinely drained the lagoon to create rich pastureland around its perimeter.

In 1977 the California Department of Parks and Recreation and the Department of Fish and Game began a series of acquisitions to protect this unique wetland and delicate area. Today 10,000 acres are administered jointly by

the two agencies. In October of 2001, Tolowa Dunes State Park received full status and is one of California's newest state parks. It was renamed to honor contemporary Tolowa members of the region who have ancestral ties to the area. Together, Lake Earl Wildlife Area and Tolowa Dunes State Park encompass the West Coast's largest coastal lagoon,



numerous ponds, abundant wetlands, long beaches, sand dunes, coastal pine forests, and a wide variety of ecological communities supporting a diversity of plants, animals, and birds.

Lying within the Pacific flyway, Lake Earl and its wetlands serve as an important stopover for thousands of birds. The once endangered Aleutian cackling goose can be observed staging here every spring. Nearly extinct in the early 1970s, the population has

recovered to more than 90,000 birds. Other notable species include bald eagles, osprey, and peregrine falcon. More than 300 bird species migrate to the Lake Earl wetlands, but a few species, such as mallards and wood ducks, winter-over and nest locally. A 25-mile network of trails offers access to hikers, bicyclists, and horses. Bring your binoculars to enjoy the wildlife and scenery!

Location: Follow Highway 101 into Crescent City, turn northwest onto Northcrest Drive, which takes you to Old Mill Road. Drive 1½ miles to Lake Earl Wildlife Area headquarters and many trailheads. Nature programs occur weekly in the summer season. Pick up a summer schedule of events at park visitor centers.

For more information contact:

Tolowa Dunes State Park
1111 Second Street
Crescent City, CA 95531
(707) 465-2145
<http://www.parks.ca.gov/>
Lake Earl Wildlife Area
Tolowa Dunes Nature Store
2591 Old Mill Road
Crescent City, CA 95531
(707) 464-2523, www.dfg.ca.gov

SMITH RIVER NATIONAL RECREATION AREA

The Smith River National Recreation Area (SRNRA) invites you to a scenic playground encompassing more than 450 square miles of densely forested mountains, pristine botanical areas, remote wilderness landscapes, high-mountain lakes, and rocky canyons. The Smith River's watershed contains more than 300 miles of forks and streams. Enjoy 75 miles of hiking trails and several hundred miles of roads, including the Smith River Scenic Byway.

Managed by the USDA Forest Service as part of the Six Rivers National Forest, the SRNRA was created by Congress in 1990 to protect the area's special scenic value, natural diversity, cultural and historical attributes, wilderness, wildlife, fisheries, and the Smith River's clean waters.

Dedicated and protected as part of the National Wild and Scenic River System, this crown jewel begins high in the Siskiyou Mountains and flows freely, without a dam, for its entire length, the only major river system in California to do so. The SRNRA offers a year-round menu of recreational opportunities:

Winter Whitewater Challenges.
Smith River tenders surprises for even

Area Information

LOCAL CHAMBERS OF COMMERCE

ARCATA

1635 Heindon Road
Arcata, CA 95521
(707) 822-3619
www.arcata.com/

BROOKINGS

16330 Lower Harbor Road
Brookings, OR 97415
(541) 469-3181 (800) 535-9469
www.brookingsor.com

CRESCENT CITY/ DEL NORTE COUNTY

1001 Front Street
Crescent City, CA 95531
(707) 464-3174 (800) 343-8300
www.northerncalifornia.net/

EUREKA

2112 Broadway
Eureka, CA 95501
(707) 442-3738 (800) 356-6381
www.eurekachamber.com/home.cfm

Humboldt County Convention & Visitors Bureau
1034 2nd Street
Eureka, CA 95501
(800) 346-3482
<http://redwoods.info/>

KLAMATH

Box 476
Klamath, CA 95548
(707) 482-7165 (800) 200-2335
www.klamathcc.org/

MCKINLEYVILLE

P.O. Box 2144
McKinleyville, CA 95519
(707) 839-2449
www.mckinleyvillechamber.com

ORICK

PO Box 234
Orick, CA 95555
(707) 488-2885
www.orick.net

TRINIDAD

PO Box 356
Trinidad, CA 95570
(707) 441-9827
www.trinidadcalifchamber.org

AREA ATTRACTIONS

Battery Point Lighthouse Museum
PO Box 535
Crescent City, CA 95531
(707) 464-3089
living history tours — summer only

Del Norte County Historical Society
577 H Street
Crescent City, CA 95531
(707) 464-3922

Northcoast Marine Mammal Center
424 Howe Drive
Crescent City, CA 95531
(707) 465-6265

Trinidad Museum
PO Box 1126
Trinidad, CA 95570
(707) 677-3883

LODGING

Redwood Hostel (HI)
14480 Highway 101 South
Klamath, CA 95548
(707) 482-8265
(800) 909-4776 ext. 733
www.norcalhostels.org

NATIONAL & STATE PARKS

Redwood National and State Parks
(707) 464-6101
www.nps.gov/redw
www.parks.ca.gov

For camping reservations call:
(800) 444-7275

For fishing, horseback riding, kayaking, and other recreation, contact the local Chamber of Commerce.

the most seasoned boater on 145 miles of navigable whitewater with Class 4 and 5 rapids on all three forks.

World-Class Fishing. Smith River's 175 miles of anadromous fish habitat presents exceptional runs of salmon (late October through December) and steelhead (mid-December through April).

The Smith River Scenic Byway along Highway 199 passes through four miles of coast redwood forests and along 27 miles of rugged canyons, turbulent rapids, and the confluence of the south and middle forks of the Smith River.

Camp along the River. Three of the four developed campgrounds in the SRNRA are along the Smith. Panther Flat campground is open year round.

Stay in a Lookout! Experience a night at the top of Bear Basin Butte (5,303 feet in elevation) and see for yourself what life would be like for a fire fighter. Go to <http://www.recreation.gov/> and search for Bear Basin Lookout and Cabin.

For more information contact Smith River National Recreation Area, 10600 Hwy 199, PO Box 228, Gasquet, CA 95543, (707) 457-3131. <http://www.fs.fed.us/r5/sixrivers/>

Patrick's Point State Park

In the past, the Yurok people had permanent village sites north and south of Patrick's Point and used the current park area as a seasonal encampment. Established in 1929, Patrick's Point State Park includes this seasonal encampment among its 640-acres of spruce forest, rocky overlooks, and quiet beaches.

In the fall of 1990, the newly constructed Yurok Village of Sumeg (a place name for the Patrick's Point area) opened to the public. The village was built to preserve and carry on the traditions of the Yurok lifestyle. The Sumeg village consists of three family houses, a sweathouse, dance pit, three changing houses, and a redwood canoe. A native plant garden, full of plants used by the Yurok people, grows next to Sumeg Village. Today, the Yuroks and neighboring tribes use this village to instruct their youth and share their traditions with the public.

The park is open year round, with day use areas open sunrise to sunset. Park activities include 10 miles of hiking trails, beachcombing, Sumeg Village, whale watching, and visitor center. The campground is open year round with car, group, and hike/bike campsites available. Reservations are recommended in the summer months.

Location: 25 miles north of Eureka and 56 miles south of Crescent City, take the Patrick's Point Drive exit off Highway 101.

For more information contact: Patrick's Point State Park, 4150 Patrick's Point Drive, Trinidad, CA 95570, (707) 677-3570 or 677-1945, <http://www.parks.ca.gov/>



Family house in Sumeg Village

Humboldt Lagoons State Park

Narrow slips of silvery sand hold back the Pacific's wind-tossed surf from the mirror-smooth waters of Humboldt Lagoons. Four picturesque lagoons — fresh waters separated from the sea by delicate sand spits — dot the coastline south of Redwood National and State Parks. Three of them — Big Lagoon, Dry Lagoon, and Stone Lagoon — make up Humboldt Lagoons State Park.

The lagoons are ancient river valleys, inundated by slowly rising sea levels since the last ice age. Wind, surf, and

rain erode the steep headlands bordering each lagoon, while strong off-shore currents raise sands from the sea floor to fashion the slender spits. Rain-engorged creeks periodically swell the lagoon waters to such heights that the smallest crack in the sand will collapse the protective wall, emptying millions of gallons of water into the sea through the breach.

Multitudes of migrating birds partake of the lagoons' vital habitat while crossing the Pacific Flyway. Cutthroat trout and threatened

steelhead fatten themselves in the nutrient-rich waters while waiting for the breach that will spill them into the chilly ocean waters. Roosevelt elk wade the shores and river otters play in the placid waters.

The Humboldt Lagoons can be explored on foot, or by kayak or canoe. Stone Lagoon's small boat-in campground exudes quiet, sheltered at water's edge under spruce and fir. Few finer fishing and birdwatching spots exist in Humboldt County. The sand spits provide outstanding beachcombing, though they should be avoided during the winter months and high surf conditions.

Location: off Highway 101, five miles south of Redwood National and State Parks' Thomas H. Kuchel Visitor Center.

For more information contact: Stone Lagoon Visitor Center, Humboldt Lagoons State Park, 115336 Highway 101 North, Trinidad, CA 95570, 707-488-2169, <http://www.parks.ca.gov>

Photo by E. L. Hiser



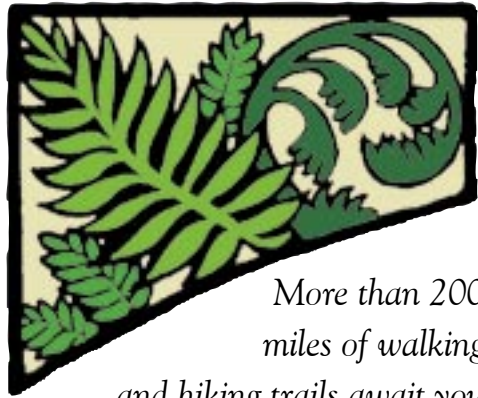
Association Support

Redwood Park Association and the North Coast Redwood Interpretive Association are not-for-profit cooperating associations, established to aid and support the education programs within Redwood National and State Parks. At each visitor center, the association sells a wide range of educational and informational material covering the redwood forests, the seashore, and other natural and human histories. Proceeds from sales support the parks' visitor programs, museum activities, research, exhibits, and publications.

Redwood Park Association
1111 Second Street, Crescent City, CA 95531, (707) 465-7325
www.redwoodparkassociation.org

North Coast Redwood Interpretive Association, Prairie Creek Redwoods State Park, Orick, CA 95555
(707) 465-7354
(707) 488-2169
www.ncria.org





More than 200 miles of walking and hiking trails await you in Redwood National and State Parks. The trails range in difficulty from easy walks to strenuous backpacking treks. They traverse a wide variety of natural habitats: old-growth redwood forests, mixed evergreen forests, coastal scrub, prairies, streams, marshes, and unspoiled beaches.

Backpackers stay in designated campsites except along the Redwood Creek gravel bars. Enjoy the forest or ocean for 5 consecutive days; 15 in a calendar year. You can camp anywhere along Redwood Creek's gravel bars beyond the first seasonal bridge and no closer than within 1/4 mile of Tall Trees Grove.

Be sure to obtain a permit for camping along Redwood Creek. Backpackers can collect up to 50 pounds of dead and down wood per day per campsite, except at Miners Ridge and Ossagon Creek (driftwood only). Obtain your overnight backcountry permit at a park visitor center.

Backcountry Basics

REGULATIONS

- ✓ Pets, firearms, motorized vehicles, and hunting are prohibited on park trails.
- ✓ Feeding or intentionally disturbing wildlife is illegal and carries a fine.
- ✓ Store food, garbage, cooking gear, and all odorous items in food storage lockers provided in campgrounds; food storage canisters, which are available at Kuchel Visitor Center; or suspended in a tree, at least 10 feet above ground and 4 feet out from the trunk.
- ✓ Mushroom gathering or possession is illegal.

HORSES

Horses are welcome on the following trails. Walk your mount when approaching hikers or riders.

- 🐾 Little Bald Hills Trail - access from Howland Hill Road
- 🐾 Mill Creek Horse Trails - access from Bertsch Avenue off Howland Hill Road
- 🐾 Orick Horse Trails - Check at a visitor center

Backcountry Horse Regulations:

- ✓ Permits are required for overnight use and can be obtained at visitor centers.
- ✓ Camp only in designated sites.
- ✓ Carry only pellets or weed-free feed.
- ✓ Animals may not graze park vegetation.
- ✓ Animals must be hobbled or tied to a hitching post when unattended.

HIKING SAFETY

- *Filter water or bring it to a boil to be safe from *Giardiasis*, an intestinal disorder caused by a microscopic protozoan.
- *River conditions in Redwood Creek can change at any time. When fording water that's above your knees, unbuckle waist and chest straps on your backpack. Brace yourself with a sturdy stick for solo crossings or interlock arms with fellow hikers. Seal important items in plastic bags.



- *To avoid hypothermia, stay dry (bring lots of good raingear); stay out of the wind; do not wear cotton, the new synthetics are better; use a hat and gloves to preserve body heat. If you experience uncontrollable shivers, slurred speech, and fumbling hands, hypothermia is setting in. Remove all wet clothing, get into dry clothing and a sleeping bag, and drink warm fluids.

Leave No Trace



Plan ahead and prepare: Inquire about the area you plan to visit; bring proper equipment; repack food into reusable containers to reduce trash; select terrain and mileage compatible with your entire group; know the regulations.

Camp and travel on durable surfaces:

Stay on established trails; do not short-cut switchbacks (it is destructive and illegal); don't clear new ground for camping; camp in designated campsites to limit impacts to the resource.

Pack it in, pack it out:

Pack out all unburnable trash; carry plastic bags for garbage; do not throw garbage into pit toilets; leave your site in better condition than you found it.

Properly dispose of what you can't pack out:

Use pit toilets when available or bury human waste in a 6-to-8-inch-deep cat hole 100 feet away from any water; wash yourself and dishes 100 feet away from streams/ocean; strain food particles from waste water and scatter it well away from campsite and 100 feet away from waterways.

Minimize use and impact of fires:

Strive to use portable stoves only; fires are restricted to designated fire pits (except on Redwood Creek gravel bars); collect dead and down wood only; keep fires small and contained; check fire danger level at a visitor center before you go.

Leave what you find:

Collecting or disturbing natural features, plants, rocks, antlers, and cultural or archeological resources is forbidden.

Backcountry Campsites

CAMPSITE	DeMartin	Elam	44 Camp	Flint Ridge	Little Bald Hills	\$Miners Ridge	Nickel Creek	\$Ossagon Creek
Number of Sites	10	3	**	11	5	3	5	3
Potable Water						◆		
Non-Potable Water		◆			◆			
Creek Nearby		◆	◆			◆	◆	◆
Toilet	◆	◆	◆	◆	◆	◆	◆	◆
Fire Pit	◆	◆	◆	◆	◆	◆	◆	◆
Food Locker	◆	◆	◆	◆	◆	◆	◆	◆
Picnic Table	◆	◆	◆	◆	◆	◆	◆	◆
Beach Access						◆	◆	◆
Permit Required		◆	◆			◆		◆

** 44 Camp is closed to horses, open to backpackers.

Check Redwood Creek height during winter when seasonal bridges are out.

Dispersed camping is allowed only at Redwood Creek, which contains no amenities.

\$ Miners Ridge and Ossagon Creek are fee sites: Obtain permit and pay fee at Prairie Creek entrance station.

ELK WATCHING



The northern redwood region's most often seen land mammal is the Roosevelt elk. One of the most popular elk-watching spots is along the Newton B. Drury Scenic Parkway in Prairie Creek Redwoods State Park. Elk Prairie is 35 miles south of Crescent City and six miles north of Orick. The open area on both sides of the parkway allows good year-round viewing of the herd, mostly females and calves. Large bull elk with magnificent antlers are commonly seen at Elk Prairie during the fall mating season. Calves are born in May and June.

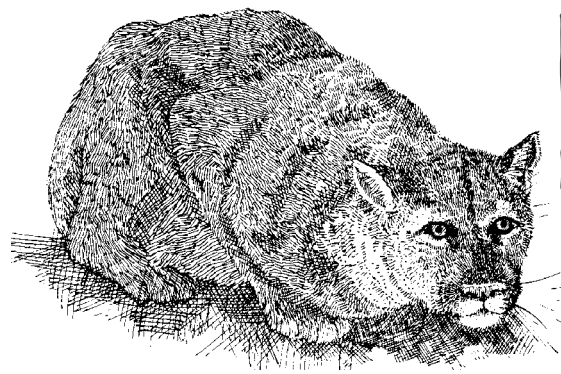
You may see elk a few miles south of Elk Prairie off Highway 101 along Davison Road. If you follow the unpaved Davison Road (motorhomes and vehicles with a combined length of more than 24 feet are prohibited) eight miles to Gold Bluffs Beach (day-use fee area) you may take advantage of the only opportunity to see and photograph these majestic animals on the beach.

Travel eight miles along Bald Hills Road (1/2 mile north of Orick off Highway 101; motorhomes and trailers not advised) to reach one of the most picturesque areas for elk watching. Oak woodlands and grasslands with Redwood Creek far below provide a grand backdrop for grazing elk surrounded by ancient redwoods.

South of Orick on the oceanside of Highway 101, lone bulls and herds of as many as 30 cow elk may be seen grazing at Stone and Big Lagoons.

Bulls of this largest subspecies of North American elk can weigh as much as 1,200 pounds and are aggressive in guarding their cow elk harems.

REMEMBER that Roosevelt elk are wild animals.
NEVER APPROACH THEM.



About Cougars & About Bears

Cougars, or mountain lions, are large, seldom-seen inhabitants of Redwood National and State Parks. Like any wild animal, they can be dangerous. Mountain lion sightings have increased over recent years. If you should be among the few people to see a cougar, the following suggestions can help ensure a safe experience:

Prevent an encounter

- Do not hike alone.
- Keep children in sight; do not let them run ahead of you on the trail.
- Keep a clean camp.
- Be alert to your surroundings.

If you meet a mountain lion

- Do NOT run!
- Do NOT crouch or bend over.
- Stand up and face it.
- Pick up young children.
- Appear large; wave your arms or jacket.
- Do not approach the lion; slowly back away.

If a mountain lion attacks

- Do NOT turn your back or take your eyes off it.
- Shout loudly.
- Fight back aggressively.

Report all mountain lion sightings to a ranger immediately. Call (707) 464-6101 or stop by any park visitor center. A description of the animal, the location, date, time of day, the cat's behavior, and duration of the sighting can help park managers protect visitors and lions.

Like all animals in our parks, bears are wild. Inviting them into your picnic or camp — on purpose or accidentally — can result in damage to your equipment, you, or the bear. Bears are memory retentive and quickly grow accustomed to human foods. Wildlife managers may have to destroy bears that repeatedly visit areas where they encounter people. So that visitors continue to enjoy seeing free-roaming bears, and to avoid personal injury, please follow these precautions:

- Keep a clean camp. A bear uses its nose to read your menu. Food odors will invite a bear to pay you a surprise visit — not a good thing.
- Store food in airtight containers or wrap it carefully. Use bear-proof lockers; when they are not available, lock food in the trunk of your vehicle and/or out of sight.
- Dispose of all garbage in bear-proof trash cans or dumpsters.

Animals will often beg for food. Do NOT feed them. Once fed, animals often become increasingly aggressive in their demands for more.

A Fed Bear Is A Dead Bear.





What Is Old Growth?



Coast redwoods are the tallest trees in the world. Many tower more than 300 feet.

Old-growth forest ecosystems of the Pacific Northwest are dominated by large conifers which range in age from 250 to beyond a thousand years. Twenty-five conifer species are in these forests. In southeast Alaska and coastal British Columbia, Sitka spruce tends to be dominant; Douglas-fir in Oregon, Washington State, and inland B.C.; and the stately coast redwood, largest of all, in northern California.

Younger forests share some characteristics with old-growth woodlands; however, only in old-growth forests are all of the following features present at the same time.

- **Large living trees and a multi-layered canopy.** Old and younger trees grow together in a mixture of species. The larger trees, 200 feet tall or more, have wind-damaged tops and relatively few large branches and thick growth of mosses and lichen harboring many insects, birds, and small mammals. The huge trunks often survive fires, for they are reservoirs, which hold thousands of gallons of water protected by thick bark. The uneven canopy is efficient at trapping moisture, even from thin fog during drier seasons. Bacteria living on the leaves of certain lichen capture nitrogen, essential for plant growth, from the atmosphere.

- **Large standing snags.** Dead snags may remain standing for more than 200 years. As their branches slough off, sunlight can reach the forest floor and allow species that require light, such as Douglas-fir, to germinate. Insects and woodpeckers open up the dead wood, providing habitat for many other species. In turn, these creatures become food for the northern spotted owl, marten, black bear, and other larger predators.

- **Large down trees.** Logs, 50 tons per acre or more in stands of Douglas-fir, crisscross the forest floor, helping to hold steep soils in place. Over a period of 200 to 500 years, as the logs decay, dozens of species of insects, birds, and mammals use them for shelter or food. All this activity helps raise concentrations of nutrients such as phosphorous and nitrogen in the rotting wood, and the rootlets of nearby live trees tap them for food. Like live trees, down logs can hold extraordinary amounts of water. Often rotten sapwood from such logs can be wrung out like a sponge.

- **Large fallen trees in streams.** Old-growth forests shape their streams in complex ways. Fallen trees lie in random patterns in small headwater streams. Since run-off is not powerful enough to dislodge them, such logs form semipermanent "staircases" that hold woody debris long enough for 70 percent of it to be processed as food and shelter by insects and bacteria. Fish benefit from the pool-forming ability of the forest floor by not only having the insects available for food, but also having shelter from storm run-off and temperature-controlled waters. Studies show that populations of large salmonoids, such as coho salmon and cutthroat trout, are directly related to pool volume on a stream. Given a choice between pools, large fish always congregate in the one with the most large woody debris. Fish are an end product of the old-growth forest. When northwestern fisheries declined disastrously after World War I, overfishing was blamed. Recent research suggests that this was instead the consequence of the destruction of old growth in the coast ranges, a distress signal that no one understood.

(Information from *Secrets of the Old-Growth Forest* by David Kelly; Gibbs Smith Publishers, Layton, Utah; Copyright 1988. Used with permission of the publisher.)

DRIVE THROUGH A TREE?

Both giant sequoias and coast redwoods have served as drive-through trees that have fascinated travelers for years. Carving a hole through a tree reflects a time passed, a time when we didn't understand the significance of all organisms and their interplay within the environment.

Now we know that the coast redwood is home to threatened and endangered species, animals that don't live anywhere else. And we know that, because redwoods do not have taproots, the mass that so inspires us to look upon them plays a major role in keeping them upright. The famous drive-through giant sequoia in the Mariposa Grove of Yosemite National Park fell in 1969 under heavy snow.

Today there are three coast redwood drive-through trees along the Highway 101 corridor in northern California. All are on private lands, all charge admission. From north to south, they are:

- Klamath Tour-Thru Tree in Klamath. Take the Terwer Valley exit.
- Shrine Drive-Thru Tree in Myers Flat.
- Chandelier Tree in Drive-Thru Tree Park in Leggett. Follow signs off Highway 101.

Whether we drive through, walk beside, or peer skyward more than 300 feet to the tops of these towering ancient giants, their scale and timelessness capture our imagination and inspire our care.

A flock of brown pelicans flies by. One breaks formation and — like a lightning bolt — dives for fish from 50 to 60 feet up in the air!



DID YOU KNOW?

The endangered brown pelican's bill can hold more than its belly!

Ranger Specials: Short Order Trails and Tent Camping

Tired of bologna on white bread or fighting the crowds for fast food? No time or money for fillet mignon? May we suggest a few of these special short order trails and tent camping recommendations? They are all located off the beaten path, served up daily, and at price that's tough to beat—FREE!

Short Order Walks

Trillium Falls Trail – 2-1/2 mile loop



For starters: an Elk Meadow with a side of wetlands; followed by a healthy serving of old-growth redwoods topped with a waterfall. Are you hungry for a hike yet? Take Davidson Road to the Elk Meadow Day Use Area. RVs welcome.

Ah Pah Interpretive Trail - .8 mile roundtrip

Want a sweet taste of the park's efforts in watershed restoration? Mmmm... does that sound appetizing? Take a self-guided walk on a path that used to be an old logging road. Get a taste for the how and why watershed restoration is helping the redwood forest. Your efforts won't go unrewarded. Located on the north end of Newton B. Drury Parkway at milepost 133.50; watch for signs.

Nickerson Ranch and Mill Creek Trail - 3 mile loop

Only three delicious miles, Nickerson Ranch Trail serves up hearty dose of old-growth redwoods stacked higher than slapjacks. You can only dream of pure maple syrup flowing in unrestricted Mill Creek. Relish the day as you meander from creek to forest and forest to creek. Take Howland Hill Road and park at Boy Scout Tree Trail. Enjoy.



Short Order Tent Camping

Got a tent? Do you want a campsite for up to five days with no fees, no permits, and first-come first-serve? Sound mouth-watering? Check out this plateful of primitive camps:

Flint Ridge Primitive Camp - .25 mile hike (one way)

A scrumptious little spot near the mouth of the Klamath River with all the fixings: 11 campsites, picnic tables, fire pits, toilets, old-growth redwoods within walking distance, and bear proof lockers. Set your sights to the north end of the Coastal Drive, just south of the Klamath River.

Nickel Creek Primitive Camp - .5 mile hike (one way)

Want one of the best little near-shore marine campsites around, with beach access that serves up, twice daily, some of the best tidepooling around? This little spot comes with all the condiments: 5 campsites, picnic tables, fire pits, toilets, and bear proof lockers. Head to the south end of Enderts Beach Road, off the Coastal Trail, located just three miles south of Crescent City.

Quick Serve Beaches

Picnicking at the beach has never been better than at Crescent Beach, Wilson Creek, Gold Bluffs Beach, and Freshwater Lagoon Spit. You can fill your palate with beachcombing, fishing, and relaxation. Check out the Official Map and Guide to find these locations north to south.

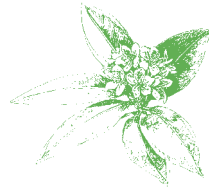
DID YOU KNOW?

Freshwater mussels live up to 140 years old! They are one of the most endangered group of animals on the planet due to over harvesting for buttons and water quality conditions, such as pollution and sedimentation. Please leave them where you find them. Right: western pearlshell (*Margaritifera falcata*) photo by William Leonard.



Four Short Walks

WALK Stout Grove



Simpson-Reed Nature Trail "Barrier-free"

Lady Bird Johnson Grove and Nature Trail
Bald Hills Road is steep (15 percent grade). Trailers and motorhomes not recommended.

Cathedral Trees Trail/Foothill Trail

START

Stout Grove parking lot off Howland Hill Road, 7 miles east of Crescent City. In summer, access is available from Jedediah Smith campground.

Park on shoulder of Hwy 199, 2 miles west of Hiouchi Information Center (6 miles east of Crescent City).

Travel on Hwy 101 to Bald Hills Road (1/2 mile north of Orick). Turn right and travel 2-1/2 miles on Bald Hills Road.

Big Tree Wayside

TIME, DISTANCE, & FEATURES

1 hour, 1/2 mile, loop

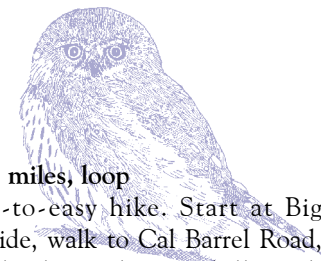
Beautiful, easy walk in a river-bottom group of redwoods. Paved trail from parking lot area to redwood flat is fairly steep.

1 hour, 3/4 mile, loop

Flat stroll on self-guided nature trail with large redwoods, octopus trees (hemlock), and many redwood-associated plants.

1 hour, 1 mile, loop

Easy walk on self-guided trail through beautiful redwood grove. Distant views of ocean. Picnic sites available at the trailhead.



2 hours, 2 miles, loop

Moderate-to-easy hike. Start at Big Tree Wayside, walk to Cal Barrel Road, continue back on the Foothill Trail. Ancient redwoods, big-leaf maples along the creek.

Four Scenic Drives

DRIVE

Howland Hill Road

Improved gravel, narrow in spots. Large motorhomes and trailers are not advised.

Newton B. Drury Scenic Parkway

No commercial vehicles are permitted

Coastal Drive

Gravel road for much of its distance. Motorhomes and trailers prohibited.

Gold Bluffs Beach/Fern Canyon Road

Davison Road is narrow and unpaved. Vehicles and trailers with a combined length of more than 24 feet are not permitted.

START

Travel Hwy 101 south in Crescent City. Turn onto Elk Valley Road, drive 1 mile to Howland Hill Road. Can also be accessed 2 miles east of Hiouchi off Hwy 199.

Parkway begins 6 miles north of Orick on Hwy 101, or 4 miles south of Klamath on Hwy 101.

From the north: travel Hwy 101 to Klamath Beach Road and follow to Coastal Drive. From the south: travel Hwy 101 to Newton B. Drury Scenic Parkway, then 7 miles to Coastal Drive.

Travel Hwy 101 to Davison Road, 2 miles north of Orick.

Day Use Fee Area

DISTANCE & FEATURES

10 miles one way

Giant coast redwoods, Mill Creek, trails to Stout Grove, Nickerson Ranch, Mill Creek, and Boy Scout Tree.

7 miles one way

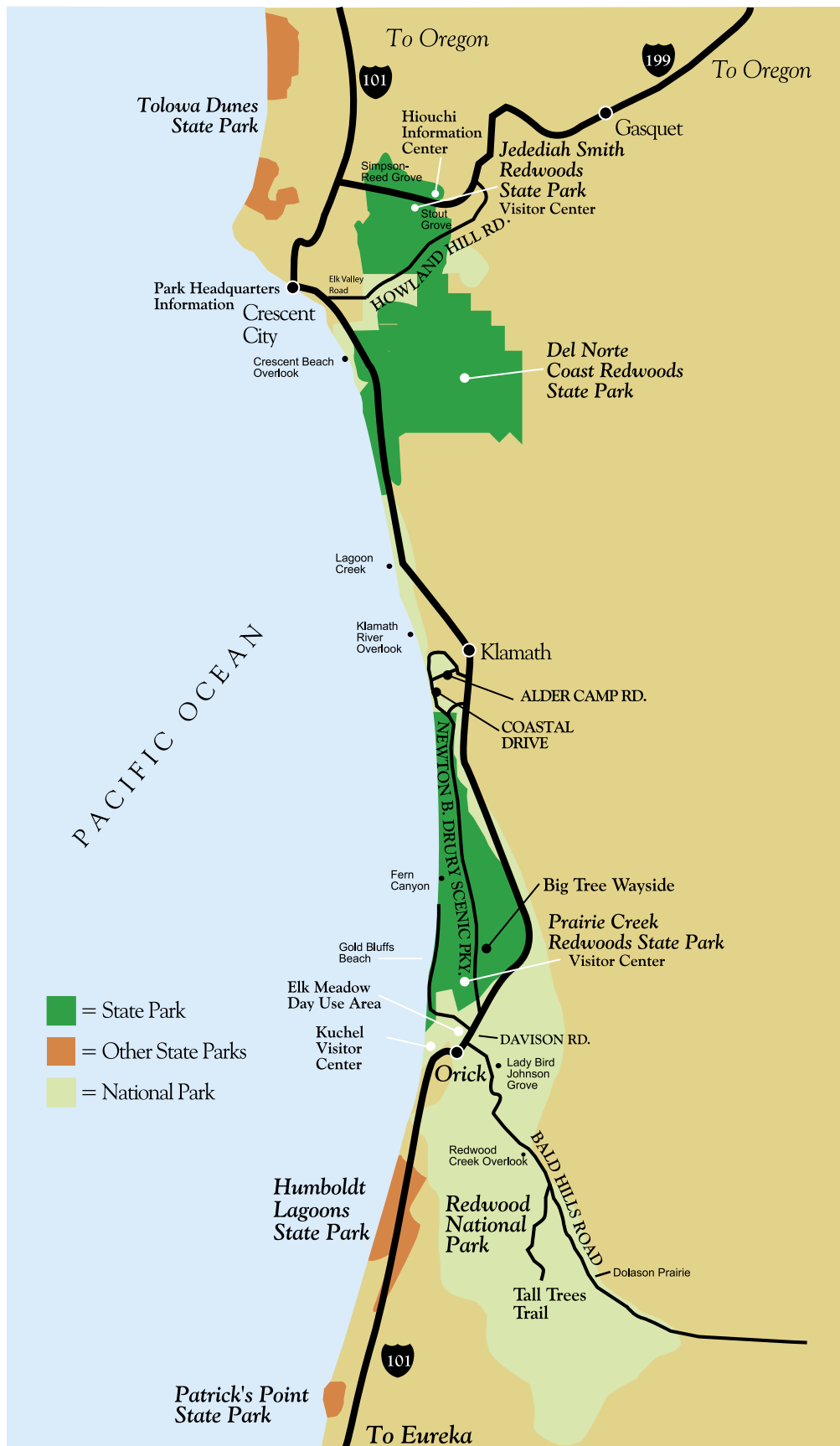
Old-growth redwoods, ferns, numerous trailheads, Big Tree Wayside, Roosevelt elk.

8 miles one way

Magnificent views of ocean, mouth of Klamath River and its estuary. Whales, sea lions, and pelicans often seen from overlooks. Flint Ridge trailhead about 3 miles from Hwy 101 on Klamath Beach Road.

8 miles one way

State park day-use fee is charged. Four miles of spectacular beach, Roosevelt elk watching, Fern Canyon: a botanical wonder (30-foot canyon walls covered with numerous fern species).



Maps, Field Guides, & Books

Five visitor centers operate within Redwood National and State Parks. A wide range of educational material covering the redwood forests, the seashore, other natural history topics, and regional human history is available. Information and gifts for all ages.

Redwood Park Association and the North Coast Redwood Interpretive Association are not-for-profit cooperating associations, established to aid and support the interpretive programs within Redwood National and State Parks. Proceeds from sales are returned directly to the parks for visitor programs, museum activities, research, library operations, exhibits, and publications. Park maps, information, and publications are available at the following locations:

- **Hiouchi Information Center** — Located on Highway 199. Open daily 9 A.M. to 5 P.M. during the summer months.
 - **Jedediah Smith Visitor Center** — Located in Jedediah Smith campground. Open daily 9 A.M. to 5 P.M. during the summer months, also during evening campfire programs. Winter months, when staff is available.
 - **Crescent City Information Center** — Located at 1111 Second Street, Crescent City. Summer hours 9 A.M. to 5 P.M. daily. Winter hours 9 A.M. to 4 P.M. daily.
 - **Prairie Creek Visitor Center** — Located off Newton B. Drury Scenic Parkway. Summer hours 9 A.M. to 5 P.M. daily. Winter hours vary.
 - **Kuchel Visitor Center** — Located one mile south of Orick on Highway 101. Summer hours 9 A.M. to 5 P.M. daily. Winter hours 9 A.M. to 4 P.M. daily.
- All visitor centers are handicap accessible.

What You Need to Know!

PETS—Pets are wonderful creatures that give comfort and companionship; however, a national or state park is not the best place for them. Domestic dogs or cats retain their instinct to mark territory with scent and may spread domestic diseases to wild animals. Unleashed pets may chase wildlife, causing the animals to be injured or leave their territory. Your unleashed pet may get lost and become a meal for a coyote or mountain lion.

If you bring your pet, please remember the following:

- Pets must remain on a leash under six feet in length while they visit Redwood National and State Parks.
- Your leashed pet is only allowed at Crescent and Gold Bluffs beaches, parking and picnic areas, state park campgrounds, and national and state park roads.
- Pets (dogs!) are not allowed on trails.
- Only guide animals are allowed in park buildings or at interpretive programs.

PARK ANIMALS—Let's keep them wild! Do not approach or feed any park animals.

PLANTS—You are welcome to harvest berries for immediate consumption, but plants, mushrooms, cones, and flowers are protected and removal is prohibited.

LITTER—Place all garbage in trash cans or bear-proof receptacles. Do not stuff garbage cans to overflowing or place garbage outside of cans. Please use recycle bins found throughout the parks. Help keep the parks clean. Save a bear.

Be Aware!

POISON OAK—*Leaves of three, let them be.* Poison oak is found in various forms throughout the parks. Sometimes it occurs in vine form, climbing the tallest redwoods in Jedediah Smith Redwoods State Park, but can also be found as a free-standing shrub. Look for the distinctive three smooth, shiny leaflets that are bright green or can be red in new shoots or during the dry season. Contact with leaves can cause an itchy skin rash, so wash thoroughly if you brush against its leaves. Stay on trails.

TIDEPOOL ETIQUETTE—All tidepool creatures are fragile. If you pick one up, do so gently and return it to the same place—its home. Return all rocks to their original position, same side up. Tidepool life depend upon rocks for shelter. Plan your steps carefully. Slick seaweed covers the rocks; avoid injury to you and the tidepool creatures.

LOGGING TRUCKS—Logging trucks rumble down Bald Hills Road.

CORVIDS, MARBLED MURRELETS, AND YOU!—Corvids are those amazingly adaptable birds such as Steller's jays, common ravens, and American crows. Known for their antics, corvids are also known to follow easy food sources, e.g. trash, livestock feed, and bird feeder food. Once corvids find trash at a trailhead or campground, they will repeatedly return hoping to find more easy human food.

The marbled murrelet is a robin-size seabird that nests only on large limbs high in the canopy of old-growth conifer forests. As corvids repeatedly fly over former food sources, they may spy a murrelet nest. Corvids eat murrelet chicks and eggs, disrupting nesting patterns of the adult murrelet pair.

WE NEED YOUR HELP! Please properly dispose of trash at trailheads and campgrounds to decrease the possibility of corvid predation on marbled murrelets, an endangered species in California.



TICKS—Ticks that carry Lyme disease occur in this area. Stay on trails and check your clothing frequently. Dark-colored ticks can be seen most easily on light-colored clothing. Tuck pant legs into your socks and your shirt into your pants. Inspect your body thoroughly after a hike.

BEACHES—Plan ahead before exploring our diverse beaches. Check for storm or high surf advisories. Know the tides; tide charts are available at visitor centers. Expect sneaker waves—always face the water. Sneaker waves appear without warning and often surge up on the beach with deadly force. You cannot outrun a sneaker wave. If pulled into the surf, stay calm, call for help, and swim with the waves. Supervise children and have them wear a life jacket. Sneaker waves account for 63 percent of weather-caused fatalities on the North Coast.

TSUNAMI PRECAUTIONS—Earthquakes beneath the ocean floor can cause a series of large waves. If you feel a strong earthquake while on the coast, immediately move inland and to higher ground; a tsunami may be coming. Stay away from the coast. Big waves can occur for hours. Wait for an official "all clear" on the radio.

